

Opportunity Title: Post-Graduate Researcher, Geo. & Env. Sciences, Carbon Storage: Petrophysics & Resource Assessment
Opportunity Reference Code: NETL-2016-05-2-Goodman

Organization National Energy Technology Laboratory (NETL)

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Application Deadline 5/10/2017 12:00:00 AM Eastern Time Zone

Description TITLE: Post-Graduate Researcher, Geological & Environmental Sciences, Carbon Storage: Petrophysics and Resource Assessment

DEPARTMENT: U.S. Department of Energy

AGENCY: National Energy Technology Laboratory (NETL)

LEVEL: Post-Graduate

POSITION INFORMATION: 1 year appointment, full time (40 hours per week) with the possibility of extension.

DUTY LOCATION: Pittsburgh, PA

WHO MAY BE CONSIDERED: United States Citizens, LPRs, & Foreign Nationals with appropriate approval which includes F-1 OPT with EAD (STEM extension not valid), J-1 Exchange Visitor, and LPR with EAD - U.S. Citizens will receive preference but foreign nationals may apply.

SUMMARY:

Through the Oak Ridge Institute for Science and Education (ORISE), this posting seeks motivated post-graduates (M.S. or PhD) interested in performing research as part of the geologic and environmental sciences focus area research team at NETL. NETL is a multi-disciplinary, scientific and technical-oriented national laboratory. NETL's Research and Innovation Center conducts research to evaluate national carbon dioxide storage resources.

NETL's Carbon Sequestration Program is developing methods and technical analyses to inform national-scale discussions on carbon capture, and sequestration (CCS). Storage resource estimation methods aim to quantify the amount of CO₂ that can be injected in the U.S. sub-surface to an accuracy of 30%. These national-scale estimation methods are based on physical processes governing sub-surface fluid flow. Experimental measurements at NETL aim to establish multiphase fluid flow and petrophysical properties of CO₂ and brine in rocks to inform resource estimation methods. As part of this broader program a series of contact angle wettability and relative permeability experiments will be performed and incorporated into national-scale resource estimation methods.

A candidate is being sought to perform high-pressure contact angle and relative permeability laboratory experiments as well as national-scale resource estimation modeling as part of an interdisciplinary team of geoscientists. Applicants for this position must have a demonstrated ability to perform laboratory experiments, review the literature, and present/write results. Experience in some or all of the following is desired: designing experimental systems, operating high-pressure (~350 bar/5,000 psi)



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laboratory systems, surface chemistry, laboratory analytical measurements, or similar. It is expected that candidates will likely either have a strong background in surface chemistry/organic/petroleum geochemistry or will have a strong background in chemical/environmental/petroleum engineering and the operation and design of high-pressure experiments. Applications will be considered from a wide variety of disciplines including chemistry, the geosciences, engineering, materials science, and petroleum-related fields. Familiarity with carbon storage, statistics, mineral reactions, and oil and gas operations would be beneficial. The candidate should be able to perform independent research projects and collaborate as part of an interdisciplinary team, including colleagues at NETL, site support contract staff, and university collaborators.

KEY REQUIREMENTS:












- Applicants must be U.S. Citizens or approved Foreign Nationals
- Must hold a M.S. or Ph.D. degree in Surface Chemistry; Organic or Petroleum Geochemistry; Geology; Chemical, Environmental, or Petroleum Engineering, or a related field from an accredited institution.

HOW TO APPLY:

Applicants should apply through the Oak Ridge Institute for Science and Education (ORISE) program. The ORISE Program provides opportunities for undergraduate students, recent graduates, graduate students, postdoctoral researchers, and faculty researchers. NETL utilizes the ORISE program to support research within NETL's Research and Innovation Center.

- Interested applicants should complete the online application at <http://www.ornl.gov/netl/>
- In the online application **list Angela Goodman as your requested mentor**. This will associate your application with this job posting. Please send a CV to angela.goodman@netl.doe.gov.
- If you have additional questions please contact Nancy Andres, nancy.andres@netl.doe.gov, who is the NETL ORISE program contact.

Eligibility Requirements

- **Degree:** Master's Degree or Doctoral Degree.
- **Discipline(s):**
 - **Chemistry and Materials Sciences** ([12](#) )
 - **Communications and Graphics Design** ([1](#) )
 - **Computer, Information, and Data Sciences** ([16](#) )
 - **Earth and Geosciences** ([21](#) )
 - **Engineering** ([27](#) )
 - **Environmental and Marine Sciences** ([14](#) )
 - **Life Health and Medical Sciences** ([45](#) )
 - **Mathematics and Statistics** ([10](#) )
 - **Other Non-Science & Engineering** ([13](#) )
 - **Physics** ([16](#) )
 - **Science & Engineering-related** ([1](#) )

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- **Social and Behavioral Sciences** ([28](#) )